

## Claims

- [c1] 1. A photolithography process using a hybrid chromeless phase shift mask, comprising the following steps:providing a mask having a gate pattern, wherein a 180-degree shifter layer is formed at a critical dimension location of the gate pattern; and performing an exposure process foe transferring the gate pattern to a photoresist layer.
- [c2] 2. The process of claim 1, wherein the gate pattern has a non-critical dimension location and the non-critical dimension location is an opaque region.
- [c3] 3. The process of claim 2, wherein the opaque region is covered by a chromium coating film.
- [c4] 4. The process of claim 1, wherein the 180-degree shifter layer is made of quartz materials.
- [c5] 5. The process of claim 1, wherein the mask has a non-gate-pattern location that is not covered the gate pattern and the non-gate-pattern location is a 0-degree shifter region.
- [c6] 6. A method for fabricating a hybrid chromeless phase shift mask, comprising the following steps:providing a transparent base plate covering by a chromium coating film;patterning the chromium coating film and removing a portion of the transparent base plate to form a gate pattern; andremoving the chromium coating film at a critical dimension location of the gate pattern to expose the transparent base plate, wherein the exposed transparent base plate is a 180-degree shifter layer.
- [c7] 7. The method of claim 6, wherein the transparent base plate is made of quartz materials.
- [c8] 8. The method of claim 6, wherein the transparent base plate has a non-gate-pattern location that is not covered the gate pattern and the non-gate-pattern location is a 0-degree shifter region.
- [c9] 9. The method of claim 6, the step of patterning the chromium coating film and

removing a portion of the transparent base plate includes a photolithography process.

- [c10] 10. The method of claim 6, the step of removing the chromium coating film at a critical dimension location of the gate pattern to expose the transparent base plate includes a photolithography process.